

especially some chiropractors and their associates. Thus chiropractor Richard D. Yennie and a Japanese physician have advertised and have conducted seminars in virtually all parts of the United States. At \$345 a head, chiropractors have flocked to Yennie's three-day seminars that are touted to make the enrollees "qualified acupuncture practitioners."

Riding his self-generated wave of enthusiasm, chiropractor Yennie put on a one-day acupuncture show last August in Bethlehem, Pa. Twenty chiropractors attended; representatives of the news media were excluded. Six acupuncture miracles were alleged to have been performed. Afterward, a reporter from a local newspaper asked Yennie whether a single day's exposure to acupuncture methodology qualified a man to use the needles. Yennie is said to have replied, "I can teach you to do it in ten minutes."

The chiropractic attitude is typical: science be damned. So, the quick quacks are riding the surf on a sea of uncertainty. Predictably, the unscientists are riding for a spill. If Ray L. Casterline, MD,¹ President of the Federation of State Medical Boards, has his way, medical associations and medical licensing authorities will act now to speed the spill.

1. Casterline RL: Another tool of health quackery? *Fed Bull* 59:396-399, 1972.

Vibration Can Cause Injury

The type, extent, and prevalence of injuries caused by vibration have varied from one study to the next. Now, Hellström and Lange-Andersen¹ present new and convincing proof that vibration, especially such as produced by chain saw operation, can cause serious injury of a traumatic vasospastic type. They examined 413 forest workers, the majority of them working with axes and other tools effecting a certain amount of vibration, 296 of whom used chain saws for prolonged periods. They found a prevalence of the vasospastic Raynaud phenomenon in 47% of chain saw operators, in 14% of forest workers exposed to limited vibration, and in only 9% of 302 indoor workers not exposed to vibration at all. The average time of latency for development of Raynaud phenomenon was eight years. The usual beginning symptoms of traumatic vasospastic disease were attacks of blanching and numbness. The deeper lesions of bones and joints were areas of decalcification and osteolytic changes fairly common in other forest workers who did not use the chain saw regularly.

Banister and Smith,² in a separate investigation, attempted to establish whether vibration-induced injury affects in any way the manipulative dexterity of the arm and the hand. The results of their study indicated that prolonged use of vibrating tools may have deleterious effects on fine manipulative skills. In the Purdue Pegboard psychological tests of manipulative dexterity, significant differences were found between the scores of power saw or chain saw users and the scores of non-saw-users. The dominant hand tended to be the most affected. Thus, Banister and Smith suggest that the decline in performance of tasks involving

fine manipulation should be included among the possible sequelae of the prolonged use of vibrating tools.

Both of these observations proving the direct relationship of vibration to vasospastic injury automatically make us think of preventive measures to be taken to minimize the damage. The chain saw manufacturers nowadays try to reduce the vibrations, and that, naturally, is a step in the right direction.

Heat is an excellent prophylactic against the attacks of vasospasm. Thus, introducing heated handles for powered tools may be another means of preventing permanent injury. Additional studies will be needed to investigate other methods to be used in the prevention of vibration injury.

Z.D.

1. Hellström B, Lange-Andersen K: Vibration injuries in Norwegian forest workers. *Br J Industr Med* 29:255-263, 1972.

2. Banister PS, Smith FV: Vibration-induced white fingers and manipulative dexterity. *Br J Industr Med* 29:254-267, 1972.

The Beauty, the Beast, and the Breast

When Keats wrote that a thing of beauty was a joy forever, he was not thinking of the loveliness of a silicone-boostered or plastically distended breast as the center of attraction in an otherwise underdeveloped young lady. Scientists now point to a lurking beast: the patient is supposedly exposed to a health hazard arising from the biodegradation of the implant.

In a review of biocompatibility and toxicity of organic polymers (based on 241 scientific references), Bischoff¹ calls our attention to the possible adverse effects, some immediate, some late, of these compounds. He also warns against the premature use in nonemergency situations of polymer materials not yet completely approved for safety. Apart from the Hollywood-style expansion of underdeveloped breasts, he indicates other medical uses of organic polymers: plasma expanders, tissue adhesives, bone cements, contraceptive devices, artificial organ components, tissue implants, laboratory ware, and others.

A sense of false security arises from the fact that many organic polymers are considered inert and nontoxic per se, or by the implication that their toxicity is easily predictable. This assumption is incorrect, since the disintegration and degradation of the organic polymers due to time as well as various physical and chemical factors might produce elution of toxic or carcinogenic secondary or component materials.

Bischoff¹ advocates more research on organic polymer biocompatibility and safety. He suggests that allocation of funds for their investigation should receive the same priority as allocation of funds for cancer research. The suggestion seems reasonable and the evidence Bischoff presents on the possible health hazards of organic polymers convinces us of a need for immediate action.

Z.D.

1. Bischoff F: Organic polymer biocompatibility and toxicology. *Clin Chem* 18:869-894, 1972.